

ABSTRACT OF THE INVENTION

A performance monitor represents execution of a data flow graph by changing performance information along different parts of a representation of that graph. If the graph is executed in parallel, the monitor can show parallel operator instances, associated datalinks, and performance information relevant to each. The individual parallel processes executing the graph send performance messages to the performance monitor, and the performance monitor can instruct such processes to vary the information they send. The monitor can provide 2D or 3D views in which the user can change focus, zoom and viewpoint. In 3D views, parallel instances of the same operator are grouped in a 2D array. The data rate of a datalink can be represented by both the density and velocity of line segments along the line which represent it. The line can be colored as a function of the datalink's source or destination, its data rate, or the integral thereof. Alternatively, a histogram can be displayed along each datalink's line, displaying information about the rate of, total of, or value of a field in, the data sent, at successive intervals. The user can click on objects to obtain additional information, such as bar charts of statistics, detailed performance listings, or invocation of a debugger. The user can selectively collapse representations of graph objects into composite representations; highlight objects which are out of records or which have flow blockages; label operators; turn off the display of objects; and record and playback the performance information.